



THE UNIVERSITY OF  
**NEWCASTLE**  
AUSTRALIA



# Fulbright Connections

[newcastle.edu.au/fulbright](http://newcastle.edu.au/fulbright)



# welcome

The University of Newcastle (UON) is recognised as a world-class research intensive university with a reputation for excellence and a strong and vibrant research culture. Our research work is recognised for its impact and relevance to the region, the nation and the international community.

International research exchanges have always been a strong part of the University's global engagement strategy and have produced many long-lasting, productive collaborations.

In 2015 we took our engagement with United States (US) research institutions to a new level by entering into a partnership with one of the most respected international exchange programs in the world.

The Fulbright Commission's prestige and history is well known. The program has produced some of the most notable academics, researchers and professionals including 78 Pulitzer Prize winners, 53 Nobel Prize winners and 31 Heads of State.

UON is proud to be the first Australian institution to sponsor a US Fulbright Postdoctoral Scholarship, aimed at strengthening research impact and reach, and forging new research collaborations of excellence.

This document provides potential applicants with an overview of the University, our research strengths, facilities and people, with a particular focus on the medical and biological sciences. It highlights the many reasons why Newcastle is a preferred destination for international academic exchanges.

Innovation grounded in world-class research can lead to lasting impacts for communities and regions across an increasingly connected world. Our robust, multi-disciplinary and collaborative research approach has driven innovation and delivered significant economic, social and environmental benefits for our communities.

I encourage you to apply for a Fulbright Distinguished Chair or Post-doctoral scholarship at UON. Our world-class researchers are driving global innovation - join us today.

#### **Professor Kevin Hall**

Deputy Vice-Chancellor (Research and Innovation)

**THE UNIVERSITY OF NEWCASTLE IS RANKED IN THE TOP 3 PER CENT OF UNIVERSITIES IN THE WORLD, ACCORDING TO TWO GLOBAL INDEPENDENT RANKING SYSTEMS<sup>1</sup>. THIS MEANS OUT OF MORE THAN 9,000 UNIVERSITIES IN THE WORLD WE ARE IN THE TOP 300.**

**TOP  
300**

universities in the world<sup>1</sup>

**AUSTRALIA'S  
No.1**

university under 50 years of age<sup>2</sup>



five star university for research<sup>3</sup>

**TOP  
8**

in Australia for research 'well above world standard'<sup>4</sup>

**TOP  
10**

in Australia for research income<sup>5</sup>

**OVER  
90%**

of our research is 'at' or 'above world standard'<sup>4</sup>



**The University of Newcastle is the first Australian institution to sponsor a prestigious US Fulbright Postdoctoral Scholarship under a new partnership which creates two new scholarships for the Fulbright Program.**

The **Fulbright Distinguished Chair** will enable an exceptional US senior scholar to undertake research in any area of health at UON for up to six months.

The **Inaugural Fulbright Postdoctoral Scholarship** is aimed at researchers who have recently completed a PhD, enabling a US scholar in any area of health to undertake up to ten months of postdoctoral research at UON.

At the formal officiation of the partnership in December 2015, US Consul General Hugo Llorens said that "The Fulbright Program is the United States' flagship exchange program and is the most widely recognised and prestigious international education exchange program in the world. I know this new partnership with Newcastle University will only add to the success of the Fulbright program".

As part of the Fulbright Distinguished Chair scholarship, UON will also facilitate a **national lecture series** in which the selected candidate will travel on the Fulbright Roadshow and present on topics in their field of expertise.

# Join our world-class researchers

The University of Newcastle is a research-intensive university which has a vibrant research culture and registers on the global stage through collaboration with research peers, industry, government and the community. Choose to collaborate with us and you will join a university that is known for outstanding success, a strong research reputation and has networks that will open doors all around the world.

[newcastle.edu.au/researchers](http://newcastle.edu.au/researchers)

## Outstanding research

### The University of Newcastle:

- is the only university in Australia to achieve a top rating for social work research and is one of only two universities in the country to achieve a 5 star rating in applied mathematics, biochemistry and cell biology, civil engineering and mechanical engineering research<sup>6</sup>
- has an annual external research income of \$92.96 million<sup>7</sup>
- has \$11.8 million new Australian Research Council (ARC) funding commencing in 2015
- has \$17.9 million new National Health and Medical Research Council (NHMRC) funding commencing in 2016
- is an associate member of the Group of Eight (Go8) Deans of Engineering and Associates<sup>8</sup>
- leads an ARC Centre of Excellence in Geotechnical Science and Engineering.
- hosts large national and international research projects including:
  - Australian Longitudinal Study on Women's Health
  - Australia New Zealand Breast Cancer Trials Group
  - Global Centre for Environmental Risk Assessment and Remediation.

## Our Centres

Central to our ability to deliver significant research is the provision of first-class facilities and collaborative research environments for our research teams. Our research strengths are focused through our 18 Priority Research Centres and the Newcastle Institute for Energy and Resources (NIER). We also collaborate closely with the Hunter Medical Research Institute (HMRI).

[newcastle.edu.au/centres](http://newcastle.edu.au/centres)

## Research strengths

UON's reputation has been built on high quality performance in **health and medicine, science and engineering**, and **energy and the environment**.

The University's 18 Priority Research Centres (PRCs) secure investment from government and industry to provide a focal point for research strengths. Our PRCs bring together our top researchers and promote cross-faculty and cross-disciplinary research to achieve research outcomes that have significant impact on society - nationally and internationally.

- Advanced Fluids and Interfaces
- Advanced Particle Processing and Transport
- Brain and Mental Health Research
- Cancer Research Innovation and Translation
- Chemical Biology and Clinical Pharmacology
- Complex Dynamic Systems and Control
- Computer Assisted Research Mathematics and its Applications
- Digestive Health and Neurogastroenterology
- Frontier Energy Technologies and Utilisation
- Generational Health and Ageing
- Geotechnical and Materials Modelling
- Grow Up Well
- Health Behaviour
- Healthy Lungs
- Organic Electronics
- Physical Activity and Nutrition
- Reproductive Science
- Stroke and Brain Injury

[newcastle.edu.au/research-and-innovation/centre#priority-research-centres](http://newcastle.edu.au/research-and-innovation/centre#priority-research-centres)

<sup>6</sup> Excellence in Research Australia 2012 <sup>7</sup> 2015 Higher Education Research Data Collection - 2014 income

<sup>8</sup> Associate members were invited to join the Go8 Deans of Engineering in recognition of the outstanding quality of their engineering research, teaching and scholarship.

# Supporting researchers

## Research Advantage Program

The University's Research Advantage Program is a dedicated program of support for UON researchers and is an overarching program with support at all levels of the academic career. Within each career level targeted initiatives address key development opportunities providing support for researcher development via access to:

- a comprehensive research orientation upon commencement
- support and direction to connect with a suitable research mentor
- multi-disciplinary networking opportunities
- high-quality ongoing professional educational learning opportunities
- research related capability development opportunities.

## Engaged PhD Program

UON is committed to building transferable skills and graduate employability, in addition to fostering research excellence.

Our Engaged PhD program will be launched in 2016 and will offer placement opportunities and exchanges within industry to facilitate work integrated learning approaches. The program will also bring together cohorts of candidates and includes elements of professional development training, regular involvement in activities of research groups such as seminars and journal clubs, as well as access to teaching and technical courses.



### **NEXT GENERATION RESEARCHERS**

#### **Access to impressive facilities and internationally-renowned researchers**

Giving our post-graduate research students the opportunity to use their problem solving abilities to master new skills and make a contribution of new knowledge to their chosen disciplines



### **LAUREATE PROFESSOR JOHN AITKEN**

#### **Director of the PRC for Reproductive Science and Pro Vice-Chancellor of the Faculty of Health and Medicine**

*A global authority in Reproductive Biology  
2012 NSW Scientist of the year*

## Global partnerships

With staff and students from 118 countries and research partnerships with more than 100 partner universities across the world, the University of Newcastle is committed to offering enhanced opportunities for international research collaboration.

Collaboration with our international partners drives our research success and advances our global reputation. We have particularly strong partnerships with institutions in China, Canada, New Zealand, US, United Kingdom, South Africa and Malaysia which are characterised by co-authored publications, research income, and student and academic exchanges.

We also continue to leverage international partnerships through our relationships with NIER and HMRI.

## Engaging with industry

The University of Newcastle works collaboratively with industry, business and government to research and develop innovative solutions to real-world problems.

Engagement with partners and productive collaborations are essential if world-class research is to translate into outcomes that will change the lives of individuals, the productivity of industry, or the economic health and sustainability of nations.

In conjunction with our industry partners, the University of Newcastle researchers have made remarkable contributions to the knowledge and understanding of issues of global significance across multiple discipline areas.



# A paradigm shift

**Could problems in the gut be the cause of disorders such as anxiety and chronic fatigue? World-leading neurogastroenterologist Professor Nicholas Talley believes so, with his research showing that the causes of many diseases may lie in the stomach.**

With a number of world-firsts and achievements in gastroenterological research, the Pro Vice-Chancellor, Global Research at the University of Newcastle believes each of his discoveries together paint a hypothesis for gut disorders and general health.

Professor Talley, who is also the President of the Royal Australasian College of Physicians, said this research provides a paradigm shift in the causes of a number of diseases.

"Millions of people suffer from unidentified gut diseases worldwide, with some of these disorders affecting 10 to 20 per cent of the population. It is awful for these people and, in many cases, heavily impacts on their professional and personal lives," Professor Talley said.

"Our discoveries which have ranged from being the first to discover a genetic mutation in a subset of Irritable Bowel Syndrome (IBS) to a pathological link between bacteria and functional dyspepsia are helping explain the unexplained. What is most interesting is what this research is also showing us about other disorders."

Professor Talley and his team are investigating cytokine profiling through a National Health and Medical Research Council grant and said that answers to many diseases lies in this research.

"Research is supporting our theory that food allergies and infection drive holes in that lining which turns on the immune system, fires up the cytokines, turning on inflammatory white blood cells called eosinophils which then manifest into disease," he said.

"If we are right, we can turn down the immune system a little bit, turn off the cytokines, and cure many diseases."

Talley's theory provides a paradigm shift in thinking and is already influencing other disease models with research data indicating that the gut could also be the cause of skin disorders, like psoriasis and dermatitis.

During his time as Chair of the Department of Internal Medicine at the prestigious Mayo Clinic in America, Professor Talley also led a team that for the first time discovered a genetic mutation that causes a subset of IBS.

Professor Talley has also identified a main cause of IBS, showing that a bacteria previously thought to be a 'nothing' bacteria with no pathological or symptom link, was in fact more than three times likely to be found in people with IBS.

Listing over 1,000 publications and receiving more than \$10 million in grants, Professor Talley's expertise has seen him receive numerous awards and accolades, including the 2014 American Gastroenterological Association Distinguished Educator Award. Professor Talley is also the author of the highly regarded textbooks Clinical Examination and Examination Medicine with Dr Simon O'Connor.

[newcastle.edu.au/profile/nicholas-talley](http://newcastle.edu.au/profile/nicholas-talley)



# A call to arms

**Across the world, 15 million people will experience stroke annually. Of these, 77 per cent will have arm issues and only half will regain arm functionality.**

Professor Paulette van Vliet has collaborated internationally to develop the world's first wearable device designed to improve the arm function of people living with stroke. The Arm Movement Measure (ArMM) device will help people living with stroke to reach their potential in their own homes, including those in remote communities where physiotherapy services are often limited. With the number of people living with stroke expected to almost double by 2032, the ArMM device will have a significant impact both here and abroad.

Paulette's interest in the treatment of the upper limb was sparked during her time as a young physiotherapist in Lidcombe Hospital, Sydney.

"As therapists we had to fight to be allowed to treat the arm for as long as we wanted. The emphasis was always on getting the patient up and walking, so that they could go home."

But when patients returned home, despite some outpatient therapy, many would never regain total use of their arm.

"For a therapist who knew that their arm could be better, I found that very short-sighted and felt I had to fight for peoples' arm recovery."

Paulette's research vision for stroke rehabilitation of the upper limb has three key goals: getting more recovery for more people; targeting treatments to people with particular deficits; and empowering patients to practice alone. The three tiers combine with the ultimate objective of reaching a person's potential.

A multidisciplinary project, the ArMM device pushes scientific boundaries and involves collaboration with Paulette's academic colleagues in electrical engineering, mathematics, commercial innovation and a number of other talented staff.

The project has also provided opportunities for postgraduate students in developing and promoting the electronic device.

The artful yet simple ArMM device, funded by a National Health and Medical Research Council Development Grant, most notably fits into Paulette's purpose of empowering patients, as it will also allow self-directed therapy in the home.

ArMM will be particularly beneficial for people in remote communities in both developed and developing nations where physiotherapy services are lacking.

"As long as they have the device and some remote communication with a therapist, such as via the internet, they'd be able to work on their own," Paulette affirms.

In Australia, 50,000 people will experience a stroke each year costing the nation \$5 billion annually in hospital, rehabilitation and further care. Stroke is increasingly impacting on younger people, and with the retirement age pushed further back, people's arm recovery is imperative to the productivity of the nation.

"If we can improve arm function it will reduce a lot of these costs," Paulette advises.

[newcastle.edu.au/profile/paulette-vanvliet](http://newcastle.edu.au/profile/paulette-vanvliet)

[www.armm.org](http://www.armm.org)

# Best-practice translational research

The Hunter Medical Research Institute (HMRI) is a partnership between the University of Newcastle and Hunter New England Health (HNEH). HMRI has a firm translational research agenda - to move research discoveries from the bench to the bedside for the benefit of the regional, national and international communities. The \$90m HMRI research facility, opened in 2012, hosts more than 1,400 university and HNEH researchers working in seven research programs.

## Flagship institute

HMRI is internationally-renowned for delivering key translational research and technology that is closely aligned to community health needs.

Based in the Hunter Region of New South Wales, Australia, HMRI partners with UON and Hunter New England Local Health District and conducts collaborations with health and medicine institutes on all points of the globe.

Striving to inhibit, cure and treat a range of serious illnesses, staff from HMRI, the Hunter New England Local Health District and UON work together to translate research findings made in the laboratory into real-world health therapies and preventative strategies. They are committed to sustaining the wellbeing of humanity, contributing knowledge and expertise to improve society's understanding of diseases and conditions that touch the lives of loved ones.

HMRI provides vital funding and facilities to fuel research, but its heart and soul are people – the researchers, generous donors and supporters, committed volunteers, and patients who participate in trials and ultimately benefit from the results. Scientific advances are translated into better clinical care, competitive commercial products and improve health care guidelines.

The facility boasts world-leading imaging technology, in fact the best of it's kind in the Southern Hemisphere, including functional MRI, diffusion tensor imaging, MR spectroscopy and clinical imaging. Researchers are



**PROFESSOR MICHAEL NILSSON**  
Director, HMRI

Delivering health and medical research solutions



### A STATE OF THE ART FACILITY

invited to use the Siemens MAGENTOM Prisma 3T scanner to support their research projects.

The \$90 million state-of-the-art HMRI building, which includes a Clinical Trials Centre for seamless interaction with study participants, is located on adjacent to the John Hunter Hospital campus.

Highlights from the past year at HMRI include:

- Hosting Professor Carl Johan Sundberg from the Karolinska Institute in Stockholm, Sweden to pursue collaborations with respiratory, physical activity, gastrointestinal and stroke/ neuroscience researchers
- An open day which brought in excess of 1,000 community members to engage directly with approximately 180 HMRI researchers through a series of public lectures, information booths and interactive research activities
- Hosting a visit from Professor John Mattick, Director of the Garvan Institute and his executive team to explore opportunities for ongoing collaboration with the Garvan and the \$24.0m NSW Genomics Research Collaborative which utilises the Illumina HiSeq X Ten high speed genome sequencing system
- A visit by the Director HMRI to Singapore with the Deputy Vice- Chancellor Research and Innovation to progress links with the National University of Singapore, the Nanyang Technological University and A\* STAR, to explore formal linkages between research in cancer, bioinformatics and immunology

# Priority Research Centre

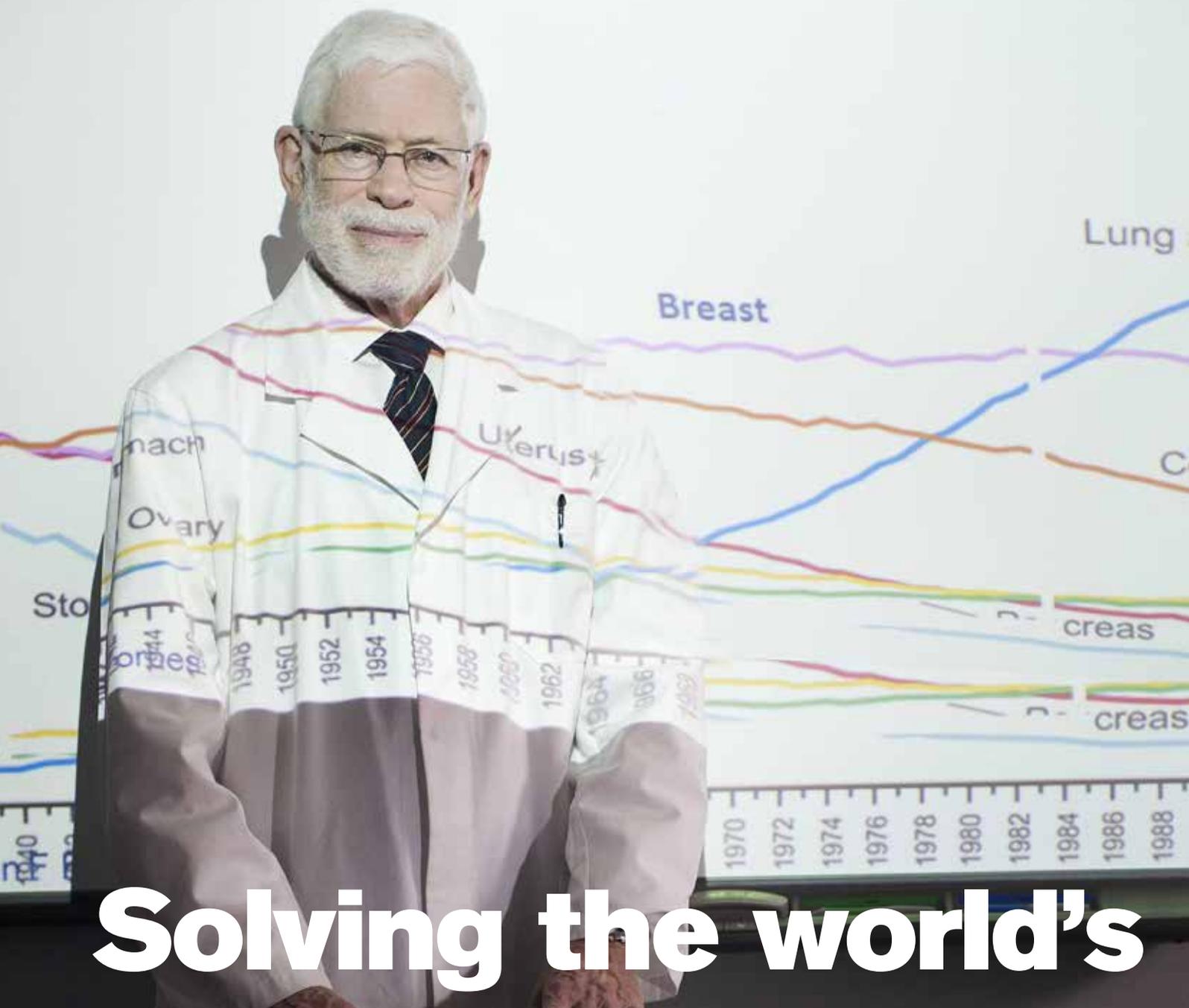
## for Healthy Lungs

The Priority Research Centre (PRC) for Healthy Lungs focuses on understanding the cellular and molecular processes that are associated with the development and progression of respiratory diseases, such as asthma and chronic obstructive pulmonary disease (COPD).

PRC Healthy Lungs is led by two of Australia's most successful respiratory researchers, Laureate Professor Paul Foster and Professor Peter Gibson. The Centre acts as a national training centre for clinician scientists, postdoctoral fellows, PhD scholars and undergraduates in respiratory medicine and continues to actively contribute to the development of health policy.

Key to the PRC's success is a strong pipeline of domestic and international PhD students who have access to the senior research expertise within the PRC via a cascading model of shared supervision and mentoring spread across the Directors, mid career researchers and early career researchers.





**Professor John Forbes AM has long been recognised as one of the world's leading scientific researchers in clinical medicine.**

In 2015 he received the Premier's award for Outstanding Cancer research, and in both 2015 and 2014 was included in the Thomson Reuters list of 'The World's Most Influential Scientific Minds'. Over four decades, Professor Forbes' discoveries - including pioneering the use of anti-oestrogen therapy for early breast cancer - have improved the quality of many lives, in Australia and the world over.

These accolades follow a string of other achievements, including a Member of the Order of Australia in 2012.

Under Professor Forbes guidance, the Australia New Zealand Breast Cancer Trials Group (ANZBCTG), Australia's only independent collaborative breast cancer clinical trials research group, has contributed substantially over the past 35 years to major international clinical trials. This research has established the benefits of drugs like tamoxifen and anastrozole which is a new class of drugs known as aromatase inhibitors. A premier centre

of excellence for breast cancer research, the ANZBCTG involves multicentre clinical trials and collaborates with more than 600 researchers in 84 institutions across Australia and New Zealand.

"If there is an important new discovery that is ready for clinical testing, there is a high likelihood that the University of Newcastle and the ANZBCTG will be involved," Professor Forbes said.

"The University of Newcastle and ANZBCTG make a major contribution to world research and create opportunities for young researchers to work with us. Building this next generation of researchers started yesterday, is continuing now and is important tomorrow."

To Forbes, the valuable of global collaboration is paramount in making advances. As he says, "collaboration is all about sharing knowledge, sharing ideas and resources, sharing the frustrations and ultimately, sharing the successes."

[newcastle.edu.au/profile/john-forbes](http://newcastle.edu.au/profile/john-forbes)



# greatest challenges

**Outstanding researcher Dr Nikola Bowden was recently named one of Australia's 'Tall Poppies' in science at the prestigious NSW Young Tall Poppy Science Awards at the Powerhouse Museum.**

Honouring Australia's brightest young scientific researchers and communicators, the award recognises both scientific achievement and engagement with the community to raise awareness of science.

A molecular biologist, Dr Bowden's breakthrough research interest is DNA repair in cancer; particularly melanoma and ovarian cancer. Her research project is supported by the Cure Cancer Australia Foundation and HMRI. Dr Bowden was the first to report on the relationship between DNA repair pathways and chemotherapy resistance in melanoma and uses next-generation profiling techniques.

A prolific science communicator, Dr Bowden uses social media as a platform for promoting and fostering interest in science. "To engage the community in science we need to make science accessible and appealing. Social media is a great

way to connect with the community and hopefully support future funding of research."

"It is a great honour to receive a Young Tall Poppy Award amongst a group of exceptional young researchers. My team of young, enthusiastic and brilliant researchers have helped make great headway in cancer research in getting a basic discovery in melanoma into a clinical trial, so the award really is for the whole team."

A women in science advocate, Dr Bowden also works with the Australian Academy of Science Early-Mid Career Researcher Forum, which initiated the science and gender equity pilot being undertaken by most Universities Australia-wide. Dr Bowden was also recently announced as one of four recipients of a Ramiciotti Foundation philanthropic Health Investment Grant awarded to autonomous early career researchers for her work with repurposing chemotherapy to prime advanced melanoma.

[newcastle.edu.au/profile/nikola-bowden](http://newcastle.edu.au/profile/nikola-bowden)

[twitter.com/nikolabowden](https://twitter.com/nikolabowden)

# A passion for discovery

## Supporting our PhD and Masters students

Heloisa Milioli's first trip to Australia in 2005 was to further her study of English while doing her biology degree in Brazil.

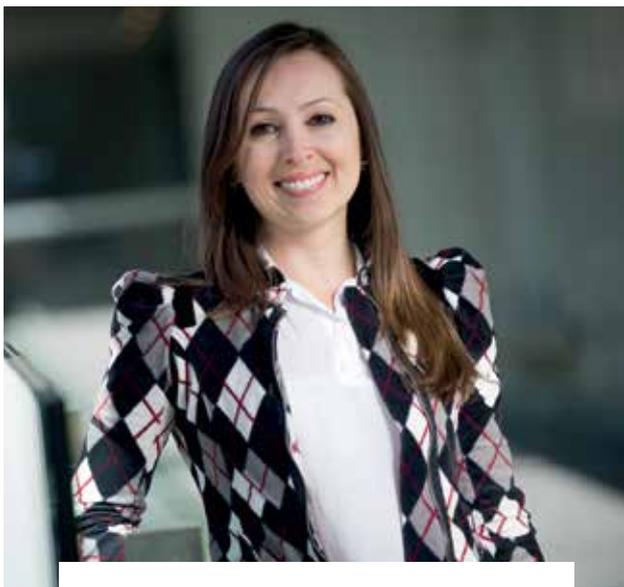
"I came to Australia to study English and was working in Sydney as a waitress, but I fell in love with Australia and wanted to come back after finishing my undergraduate and masters degrees."

Heloisa's PhD research at the UON is in bioinformatics, which she describes as the area between biology and computer science.

"New technologies generate vast amounts of information. If we're talking about DNA, for example, we're talking about billions of pieces of information. Biologists just can't analyse this much data and computer scientists don't have the biological background, so we need people who can speak both languages. I felt that I needed to learn that area in between."

With the clear goal of doing her PhD in Australia, Heloisa's search led her to Professor Pablo Moscato at the University of Newcastle and HMRI.

"I contacted Professor Moscato to see if I could do a PhD in bioinformatics with him analysing data related to disease. His name kept appearing in publications I'd been reading about bioinformatics and breast cancer."



**"The chance to study bioinformatics with Professor Pablo Moscato at UON was my preferred choice. I started my PhD in a brand new building. It was so impressive."  
Helosa Milioli, Brazil**



**PROFESSOR PABLO MOSCATO**  
**Centre for Bioinformatics**

*Breaking new ground on personalised medicine.*

Heloisa received two offers to study in Australia – one from the University of Newcastle, and the other from Brisbane.

"But the chance to study bioinformatics with Professor Moscato was my preferred choice."

Her decision to come to Newcastle was confirmed by an unlikely source – an article from Lonely Planet about the world's Top 10 cities to visit in 2011.

"Newcastle was in that list so it was a wonderful coincidence. My husband and I were living near the beach in Brazil so seeing the beautiful beaches here was irresistible! But it got even better after we arrived."

"Pablo informed me that HMRI would be moving to a new building but I had no idea it would be to the incredible new facility at the John Hunter Hospital campus - I actually started my PhD in the brand new building. It was so impressive."

Heloisa is keen to continue work with Professor Moscato's research group after her graduation as she feels there are a few areas that need continued exploration.

"Our research has raised some areas that we think are incredibly significant. We've found some genes that we feel are strongly related to an aggressive subtype of breast cancer so we have some ideas that we need to test in the lab. I dearly hope we can continue to explore this avenue that has opened due to bioinformatics."

[newcastle.edu.au/profile/pablo-moscato](http://newcastle.edu.au/profile/pablo-moscato)



# Destination of choice

## Why Newcastle?

The University of Newcastle is a comprehensive, international university and one of Australia's leading research institutions.

Our high academic standards, superb recreational facilities, natural surroundings, award-winning buildings and excellent access to the latest technology are all part of the reason why the UON is an excellent choice as your Study Abroad destination.

Situated on the sunny East Coast of Australia, Newcastle is one of the world's most beautiful coastal cities - it attracts thousands of international students, every year. It has been ranked as the 5th Most Liveable City In The World by the Lonely Planet Guide (2011). Once you've experienced it for yourself, you'll understand why.

Newcastle's international students enjoy the area's bustling culture, without the stress of more expensive Australian cities. You can socialise with friends in the city district, or spend your free time relaxing in the beautiful natural surroundings. It's the perfect balance of study and lifestyle.

Newcastle is also great for students wishing to spend their free time travelling to Australia's other must-see destinations. It's around two hours from Sydney, one hour from the Hunter Valley vineyards, and just off the main coastal highway for exploring Australia's many picturesque sea-side towns.

Best of all, Newcastle offers the perfect climate for anyone looking to experience that famous Australian sunshine. Enjoy moderate winters and long playful summers, with an average summer temperature of around 28 degrees. This

makes perfect weather for relaxing or playing - or even studying - on some of Australia's best beaches.

## Top 200 Most International Universities

In 2015 we were proud to be ranked in the Top 200 Most International Universities<sup>9</sup>. This ranking examines a university's international student numbers, its percentage of international staff and the proportion of its research papers published with a co-author from at least one other country.

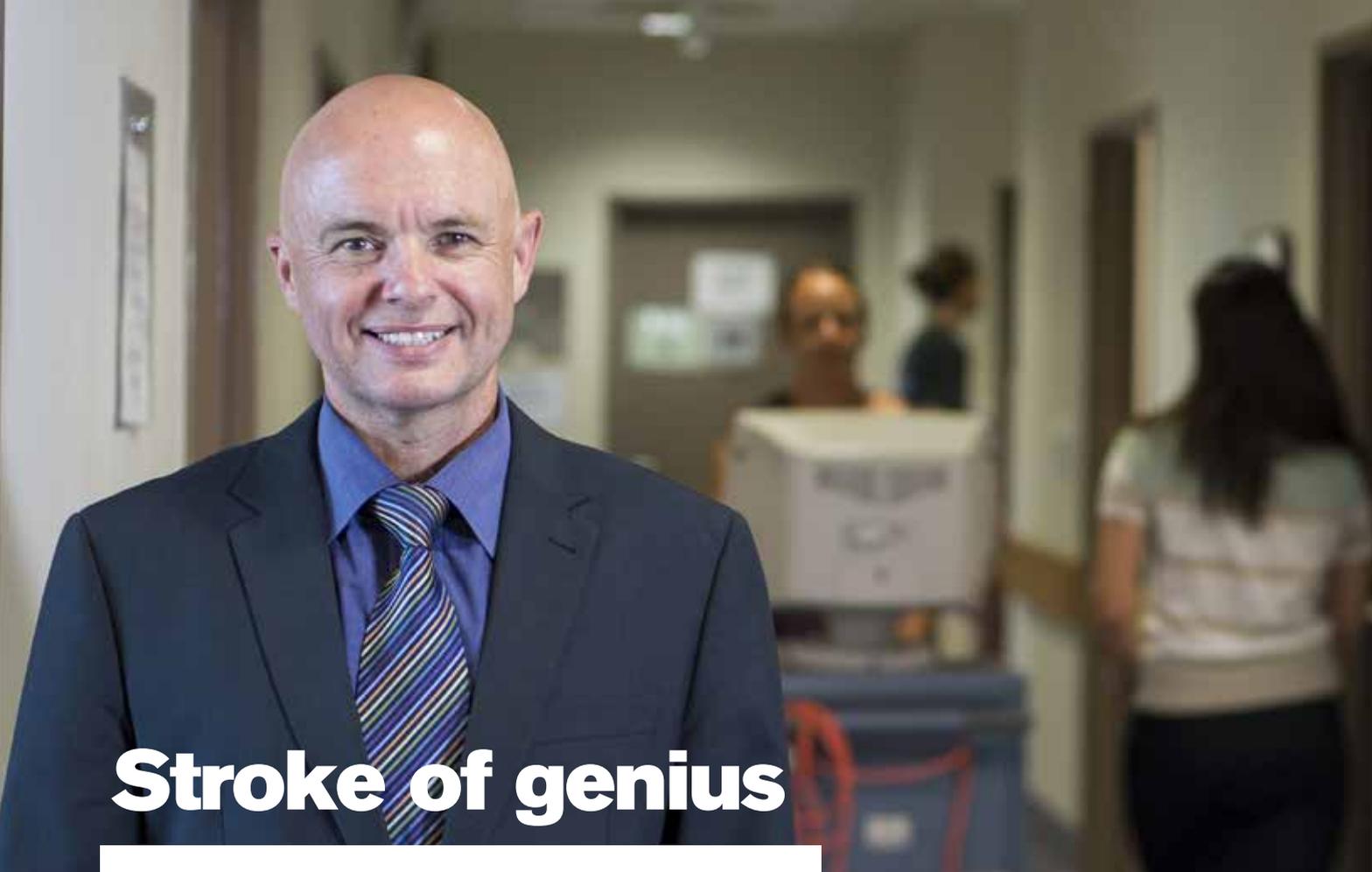
We partner with more than 100 universities in 25 countries across the globe and provide various programs to gain global experiences while you study

### Student mobility

The Top 200 ranking recognises the University's long-standing commitment to fostering global citizens through our outbound mobility programs.

In recent years a record number of local students participated in outbound mobility opportunities, and our International Leadership and Development program doubled, providing opportunities for international exchange and volunteer experiences as well as lectures on leadership issues and engagement with respected international figures.

<sup>9</sup> *International Outlook Indicator in the Times Higher Education World University Rankings*



# Stroke of genius

**Internationally renowned stroke researcher, Conjoint Professor Chris Levi is on a medical mission: “Cure more, improve more, harm less”.**

Working on more than eight ground-breaking research projects improving stroke treatment options for patients, including the use of Tenecteplase (TNK), a clot-busting drug, is being trialled at 50 major hospitals around the world. Its potential to cure stroke in some patients has earned TNK the nickname ‘The New Kid’ on the stroke block.

“One in six people will experience a stroke in their lifetime. In Australia alone, there are 50,000 strokes every year - enough to fill the Sydney Cricket Ground,” Professor Levi said. “TNK is a clot-dissolving drug developed by industry and derived from a naturally occurring protein from the blood vessel wall. The trial will test TNK against the current standard clot-busting drug Alteplase.”

“Alteplase is good if it works. However, we need better, more effective and safer treatments. Alteplase carries a small, but significant, risk of bleeding and only dissolves the clot in 30-40% of cases. TNK in Phase 2 Trial looks considerably better. We saw patients affected by stroke making almost miraculous recoveries on TNK.”

Published in the prestigious New England Journal of Medicine, findings from Phase 2 Trial showed that two-thirds of patients treated with TNK displayed major improvement within 24 hours, and 72 per cent showed excellent recovery within three months after their stroke.

Professor Levi’s drive and stellar reputation led him to being selected by the Australian Government to help set the upcoming national standards for treatment for stroke

patients, as part of the Australian Commission for Quality and Safety in Health Care Clinical Standards and Indicators Group.

The stroke research team also has world leading expertise in the application of advanced CT imaging technology to acute stroke diagnosis and treatment.

Under the leadership of colleague Prof Mark Parsons, and working as a Toshiba International Luminary Site, the group have pioneered how brain perfusion imaging can better select individual patients for clot-busting treatment by identifying how much brain tissue remains viable at different time points after the onset of stroke.

The imaging analysis techniques and their applications are a world-first. Professor Levi is also investigating how combining CT imaging and ultrasound (fusion ultrasound) can be used to determine precisely when a clot has been dissolved and a blocked artery opens.

Professor Levi credits the integrated health care system in operation between the local community, John Hunter and Mater Hospitals, HMRI and the University as key to his group’s success across many areas of stroke research. The various national, international and local research networks they have built is another reason for their achievements.

“Across the University and medical sector, we have people working with the Stroke Research Group in cognitive issues and depression post-stroke, imaging, nutrition, physical activity and more. By working together in an integrated system, we are making huge advances. The army of people we have pooled together is helping to win the battle against this crippling condition.”

[www.newcastle.edu.au/profile/chris-levi](http://www.newcastle.edu.au/profile/chris-levi)



## Curing infertility

**A critical placenta receptor that could prevent life-threatening chronic disease will become the focus of Dr Kirsty Pringle, after securing a prestigious Australian Research Council (ARC) Future Fellowship scheme in late 2015.**

Aimed at optimising fetal growth, the research could benefit all mammals including threatened animal species and valuable domestic animals such as livestock. Conversely, the findings could also develop mechanisms for controlling the fertility of feral animal species.

Dr Pringle said her work would focus on the role of a specific receptor in the growth and function of the placenta.

"We know that the development of a healthy placenta is critical for optimal fetal growth and can induce life-long changes that impact on the health of all species into adulthood. Through the use of new, innovative technologies we will for the first time be able to examine the function of a specific receptor in the placenta and determine its impact on placental and fetal growth."

"Using this information we can then design a therapy to target that receptor, improving fetal development and reducing chronic diseases such as diabetes and cardiovascular disease that are associated with poor fetal development."

Dr Pringle is based at the Mothers and Babies Research Centre at the Hunter Medical Research Institute and is part of the Priority Research Centre (PRC) for Reproductive Sciences, where she works closely with Laureate Professor John Aitken.

The PRC for Reproductive Science is a 50-strong research team studying fertility and contraception, which has attracted almost \$50 million in funding since Professor Aitken arrived in Newcastle from Edinburgh in 1999 to take up the Chair in Biological Sciences at the University of Newcastle.

During the 40 years Professor Aitken has been working to uncover the intricacies of the union between sperm and egg he has published over 480 research articles, given more than 350 invited lectures and filed 12 patents. His work has been cited >16,000 times (h-index of 70), the highest citation index in his field.

The world-renowned reproductive biologist has worked and studied at some of the world's most prestigious research institutes including Cambridge and the World Health Organisation, but says there is no place he would rather be than Newcastle.

"The University of Newcastle is only 50 years old and it's already in the top 3 per cent of the world's universities. That achievement is amazing and should be recognised as such. Universities are not bricks and mortar - universities are people and there are some fantastic people in this university and I'm very proud to be a member of that community."

"This is a very exciting time to be in Newcastle. It's changing very dramatically and the University will be a major force in driving the future development of the region."

[www.newcastle.edu.au/profile/kirsty-pringle](http://www.newcastle.edu.au/profile/kirsty-pringle)

[www.newcastle.edu.au/profile/john-aitken](http://www.newcastle.edu.au/profile/john-aitken)

[youtu.be/8YR6aWRMFfM](https://youtu.be/8YR6aWRMFfM)

# Fulbright application process

## Fulbright Distinguished Chair in Health

The Distinguished Chair Program is viewed as among the most prestigious appointments in the Fulbright Scholar Program.

The development of research areas of health is important to the bi-lateral relationship between the United States and Australia. It is anticipated this position will provide scholars with an opportunity to contribute to this relationship, and to key research areas at the University of Newcastle. The Distinguished Chair (equivalent US Research Chair) is to conduct research at The University of Newcastle in the area of health. Areas of particular focus include:

- Immunology (particular interest in asthma and respiratory disorders)
- Neurosciences (particular interest in stroke)
- Reproductive medicine
- Brain and mental health

The Distinguished Chair will also participate in the Fulbright Distinguished Chair Lecture Series to three or four universities / institutions across Australia organised in conjunction with the Australian Fulbright commission and the University of Newcastle. Other additional activities may be negotiated with the host university.

### Eligibility

Open to both senior academics at the level of full professor or those with a distinguished career in the proposed field.

### Benefits

The value of the Distinguished Chair in 2017 will be approximately AUD \$65,000 for 6 months and includes:

- A monthly stipend for a maximum of 6 months
- Accommodation allowance for a maximum of 6 months
- Travel entitlement
- Travel allowance for an Australian lecture tour
- Health coverage under Medicare (Scholar only)
- Health and Accident Insurance (ASPE) to maximum of US\$100,000 (Scholar only)
- Access to Fulbright Alumni in the US and Australia for social and professional networking
- Support through the Fulbright Commission to assist with administration, visas and general enquiries.
- Dependents of scholars who will be enrolled in the Australian public school system in grades K-12 may have tuition fees waived.

## Postdoctoral Scholarships in Health

The Fulbright Postdoctoral Scholarship will enable exceptional U.S. scholars in Biological Sciences, Medical Sciences, Psychology or Public/Global Health to undertake postdoctoral research at the University of Newcastle. Areas of particular interest are as for the Distinguished Chair in Health.

### Eligibility

This scholarship is open to researchers who have completed their PhD in the past two to three years (up to five years under extenuating circumstances).

### Benefits

- A monthly stipend for a maximum of 10 months
- Generous travel entitlement
- Health coverage under Medicare (Scholar only)
- Health and Accident Insurance (ASPE) to maximum of US\$100,000 (Scholar only)
- Access to Fulbright Alumni in the US and Australia for social and professional networking
- Support through the Fulbright Commission to assist with administration, visas and general enquiries
- Scholars accompanied by eligible dependents may receive one, one-time dependent allowance (conditions apply)

### Conditions

- Grants must be started in January/February 2018 in line with the Australian academic year and for attendance at the Fulbright Orientation Program and Presentation Dinner
- Funding is stipend based and is for a maximum of 10 months. It will be reduced for shorter programs
- Funding does not cover Tuition fees
- Recipients need one primary host institution. They can visit other institutions but must spend the majority of their program at their primary institution
- Applicants must demonstrate they have sufficient additional funds to support themselves and any dependents during their stay in the Australia

### Apply now

To apply for the United States Fulbright Distinguished Chair in Health or a Post-doctorate Scholarship in Health, please visit:

[www.fulbright.com.au/index.php/u-s-applicants](http://www.fulbright.com.au/index.php/u-s-applicants)

### Application deadline

It is essential that all required parts of the application process be submitted by **1 August, 2016**.

## Contact

For more information contact: Dr Ruth Lee Martin, Acting Executive Director, Australian-American Fulbright Commission or Ms Tara Hawley, U.S. Scholarships Officer, Australian-American Fulbright Commission via:

[www.fulbright.com.au/index.php/contact-us](http://www.fulbright.com.au/index.php/contact-us)

